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Umbelliferae in Japan I

Takasi YAMAZAKI

[redacted] Nakano-ku, Tokyo, 165-[redacted] JAPAN

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The Umbelliferae in Japan has been classified into 30 genera and 90 species. Taxonomy of these species has been treated by several authors. However, the scientific names of some taxa are different by the authors, so I attempt to sort out the right scientific names of these species and genera in this paper. The genus *Spuriopimpinella* Kitag. is united to the genus *Pimpinella* L., and the genera *Tilingia* Regel and *Dystaenia* Kitag. to the genus *Ligusticum* L. It is clear that *Angelica* sect. Acutilobi with 7 species is an endemic section of the Japanese Islands. In this paper a key to Japanese genera is provided and 11 genera are treated; *Hydrocotyle*, *Centella*, *Sanicula*, *Torilis*, *Anthriscus*, *Osmorhiza*, *Pleurospermum*, *Bupleurum*, *Cryptotaenia*, *Pternopetalum* and *Aegopodium*.

Key words: Japan, taxonomy, Umbelliferae

Taxonomy of Umbelliferae in Japan has been revised by several authors, such as Hara (1954), Hiroe and Constance (1958), Kitamura and Murata (1961), Ohwi (1975), Kitagawa (1982), Ohba (1999). However, the treatments for some genera and species are different by authors. I attempt to put out a new taxonomy of Umbelliferae in considering the related species in Russia and China.

Umbelliferae Scopoli

Hara H., Umbelliferae in Enum. Sperm. Jap. **3**: 291–328 (1954).

Hiroe M. & Constance L., Umbelliferae in Japan in Univ. Calif. Publ. Botany **30**: 1–144 (1958).

Kitamura S. & Murata G., Umbelliferae in Coloured Illustr. Herbaceous Pl. Japan **II**:1–32, plates 9 (1961).

Ohwi J., Umbelliferae in Fl. Japan ed. **2**: 969–1003 (1975).

Kitagawa M., Umbelliferae in Satake & al. eds., Wild Fl. Japan. Herbaceous Pl. **2**: 276–290, pls.249–272 (1982).

Ohba H., Umbelliferae in Iwatsuki & al. eds., Fl. Japan **IIc**: 268–303 (1999).

Key to the genera

A. Stems slender, creeping; inflorescence axillary, with a single umbel; fruits strongly flattened laterally (Subfam. I. Hydrocotyloideae).
  B. Petiole with a pair of free stipules at base; involucre wanting or inconspicuous; fruits without ribs and reticulations............................. 1. *Hydrocotyle*
  B. Petiole sheathing at base, without stipule; involucre conspicuous; fruits with evident ribs and reticulations....... .... 2. *Centella*
A. Stems erect or ascending, not creeping; inflorescence terminal and axillary, with a few to many umbels; fruits terete, slightly appressed laterally, or flattened dorsi-ventrally.
  B. Sepals prominent, froming a persistent corona on fruit (Subfam. II. Saniculoideae)................................. 3. *Sanicula*

B. Sepals inconspicuous or small, not forming a corona on fruit (Subfam. III. Apioideae).
  C. Oil-tubes of fruits solitary to many, intercostal, sometimes lucking; fruits with or without spines, inner face of endosperm flattened or concave.
    D. Mericarps suborbicular or semiorbicular in cross section; inner face of endosperm concave.
    E. Mericarps without or with obscure ribs outside (Tribe 1. Scandiceae).
    F. Fruits ellipsoid, acute at apex, dense-prickly .... 4. *Torilis*
    F. Fruits lanceolate to linear-cylindric, beaked at apex, glabrous, hirsute or setose.
    G. Mericarps rounded at base, glabrous or hirsute outside.......... .... 5. *Anthriscus*
    G. Mericarps long-caudate at base, appressed-setose outside .... 6. *Osmorhiza*
    E. Mericarps with semi-winged 5 ribs (Tribe 2. Smyrnieae).................... .... 7. *Pleurospermum*
    D. Mericarps semiorbicular to compressed-semiorbicular or flattened dorsi-ventrally in cross section; inner face of endosperm flattened or nearly so, or slightly convex, not concave.
    E. Fruits slightly appressed dorsi-ventrally; mericarps semiorbicular in cross section, ribs slender or distinct, not winged (Tribe 3. Ammineae).
    F. Ribs of mericarps slender, linear or obscure (distinctly ridged in *Sium suave*) (Subtribe 1. Carinae).
    G. Leaves simple, entire .... 8. *Bupleurum*
    G. Leaves lobed or dentate, usually compound.
    H. Umbellets paniculately arranged; flowers irregular in an umbellet... .... 9. *Cryptotaenia*
    H. Umbellets umbellately arranged; flowers regular or irregular in an umbellet.
    I. Umbellets with irregular 1–3 flowers; cauline leaves with linear segments, much different from radical ones.......................... .... 10. *Pternopetalum*
    I. Umbellets with 5 to many flowers; cauline leaves nearly the same with radical ones.
    J. Oil-tubes lacking in fruit.
    K. Stylopodium distinct, conical....... .... 11. *Aegopodium*
    K. Stylopodium low, flat.................. .... 12. *Chamaele*
    J. Oil-tubes present in fruit.
    K. Rachis of inflorescences distinct, so the umbels paniculately arranged; ultimate leaf-segments ovate to linear.
    L. Stems terete; involucral bracts lacking, rarely 1–2.
    M. Rhizome not fleshy; ultimate segments of leaves ovate to lanceolate; growing in forests or dry meadows....... 13. *Pimpinella*
    M. Rhizome fleshy; ultimate segmnts of leaves linear-lanceolate; growing in wet places........ 14. *Cicuta*
    L. Stems distinctly ridged; involucral bracts present........... 15. *Sium*
    K. Racis of inflorescences lacking, so the umbels terminal and axillary; ultimate leaf-segments linear.......................... 16. *Apium*
    F. Ribs of mericarps highly ridged or wing-like, at least in lateral ribs (Subtribe 2. Seselinae).
    G. Fruits with carpophore; dorsal ribs of mericarp thickly corky.
    H. Sepals distinct; style ca. 2 mm long....................... 17. *Oenanthe*

H. Sepals inconspicuous; style 0.2–0.3 mm long... 18. *Apodicarpium*

G. Fruits with a bilobed slender carpophore; ribs of mericarp thinly corky or wing-like (thickly corky in *Cnidium*).

H. Ribs of mericarps firm, corky.

I. Ribs of mericarps stout; calyx-teeth and fruit glabrous.

J. Calyx-teeth inconspicuous: ribs of mericarps thick, obtuse and corky throughout..... 19. *Cnidium*

J. Calyx-teeth prominent and persistent; ribs of mericarps ending in a narrow thin wing, dilated and corky at base .... 20. *Pterygopleurum*

I. Ribs of mericarps thin, not wing-like; calyx-teeth and fruit puberulent or papillate-puberulent .... 21. *Libanotis*

H. Ribs of mericarps thin, wing-like (at least on the lateral ribs), not corky................. 22. *Ligusticum*

E. Fruits much appressed dorsiventrally; carpels compressedly semiorbicular or elliptic in cross section, lateral 2 ribs winged, slightly or distinctly broader than the dorsal ones (Tribe 4. Peucedaneae).

F. Dorsal ribs of mericaprs thin, filiform, not winged; lateral ribs thickly membranceous, equaling or shorter than a half of the body (Subtribe 1. Ferulinae) .... 23. *Peucedanum*

F. Dorsal ribs of mericarps stout, wing-like; lateral ribs winged, nearly the same or broader than a half of the body (Subtribe 2. Angelicinae).

G. Fruits pilose outside; lateral ribs narrowly winged, corky, nearly the same with the dorsal ones; without gaps between mesocarp and endocarp............ 24. *Glehnia*

G. Fruits glabrous outside; lateral ribs winged, not corky, nearly the same or wider than the dorsal ones; with one to several distinct gaps between mesocarp and endocarp.

H. Dorsal ribs of mericarps winged, nearly the same with the lateral ones .... 25. *Conioselinum*

H. Dorsal ribs of mericarps thickly filiform, or narrowly winged, narrower than the lateral ones.

I. Dorsal ribs protruding, thickly filiform, slightly narrower than the lateral ones .... 26. *Coelopleurum*

I. Dorsal ribs thinly filiform, slightly protruding.

J. Oil-tubes slender and extending nearly to quite the length of the fruits; flowers with equal petals.

K. Pericarp multi-layered, opaque; calyx-teeth short or inconspicuous.......................... 27. *Angelica*

K. Pericarp single-layered, hyaline; calyx-teeth distinct .... 28. *Ostericum*

J. Oil-tubes prominent, extending 1/3–1/2 of the fruit-length; marginal flowers in an umbellet with unequal petals (Subtribe 3. Tordylinae).......... 29. *Heracleum*

C. Oil-tubes solitary under the ribs, 2 toward commissure; fruit ellipsoid, beset with long spines, endpsperm flatted at commissure (Tribe 5. Dauceae)....................... 30. *Daucus*

Subfamily I. **Hydrocotyloideae** Drude

Drude in Engl. & Prantl, Nat. Pflanzenfam. 3, **8**: 116 (1898).

Hydrocotyle L.

L., Sp. Pl. 234 (1753).

A. Creeping stems with erect or ascending branches, branches not rooting; umbels on branches.
  B. Umbels (1–) 2–5 in fascicles.
    C. Stems and petioles glabrous or sparsely depressed-pubescent; leaves 2.5–5 cm long, 3–6 cm wide, petioles 2–5 times longer than the lamina; fruits ca. 1.3 mm long......... .... 1. *H. javanica*
    C. Stems and petioles densely crisped-pubescent; leaves 0.7–3 cm long and wide, petioles as longa as or slightly longer than the lamina; fruits ca. 1 mm long........................ .... 2. *H. pseudoconferta*
  B. Umbels solitary; leaves 0.7–2.5 cm long and wide.
    C. Leaves with many punctate dots beneath, shallowly lobed, lobes overlapping; inflorescences longer than the leaves................ 3. *H. ramiflora*
    C. Leaves without dots benath, deeply lobed into 1/2–3/4 of the length, lobes opening, if overlapping at apex, at least opening at base.
      D. Leaves generally 5-lobed into 1/2–2/3 of the length; inflorescences shorter than the leaves...... .... 4. *H. maritime*
      D. Leaves generally 3-lobed into 3/4 of the length; inflorescences as long as or slightly longer than the leaves............... 5. *H. batrachium*
A. Stems creeping throughout, without erect or ascending branches; umbels radical.
  B. Petioles glabrous or long-pilose at apex; fruits 1–1.3 mm long.
    C. Stems and leaves living in winter; winter buds absent; leaves lobed in 1/3-1/4 of the length; ripe fruits ca 1 mm long.......... 6. *H. sibthorpioides*
    C. Stems and leaves whithered in winter; winter buds present; leaves lobed in1/2–2/3 of the length .... 7. *H. yabei*
  B. Petioles crisped-pubescent throughout; fruits ca. 0.8 mm long .... 8. *H. dichondroides*

1. **Hydrocotyle javanica** Thunb., Diss. Bot. Hydrocot.: 6, t. (1798); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 7, f. 2 (1958); Ohwi, Fl. Jap. ed. 2: 971 (1975); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 269 (1999).

Hydrocotyle nepalensis auct. non Hook.: H.Hara in J. Jpn. Bot. **17**: 342 (1941).

オオバチドメ

Japan: C. to W. Honshu (westward from Ibaraki Pref.), Shikoku, Kyushu (northward from Amami-Ohshima). Edges of evergreen forests at low elevations.

Distr.: Japan, Taiwan, C. to S. China, Indochina, Malay Peninsula, Java, India and Ceylon.

Note: *Hydrocotyle nepalensis* Hook. in Nepal very resembles *H. javanica*, but differs from the latter by the leaves with subacute lobes and acute teeth and inflorescences are generally soliatry in the leaf-axils. It is necessary to make a critical study based on more materials.

2. **Hydrocotyle pseudoconferta** Masam. in J. Soc. Trop. Agric. **4**: 301 (1932); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 14, f. 2, 1–3 (1979); Yamazaki in J. Jpn. Bot. **75**: 371 (2000).

Hydrocotyle nepalensis auct. non Hook.: Liu & Kao, Fl. Taiwan ed. 2, **3**: 1029 (1993), pro parte.

タイワンチドメグサ

Distr.: The Philippines, China (Taiwan, Zhejuang) and Kyushu.

3. **Hydrocotyle ramiflora** Maxim. in Bull. Acad. Sci. St.-Pet. **31**: 46 (1886); H. Hara in J. Jpn. Bot. **17**: 344 (1941); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 9, f. 3 (1958), pro parte, excl. syn. *H. maritima* Honda; S.L.Liou, Fl. Reip. Popul. Sin. **55**(1):

26, f. 7, 6–10 (1979); H. Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 269 (1999).

Hydrocotyle wilfordi Maxim. in Bull. Acad. Sci. St.-Pet. **31**: 45 (1886); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 23, f. 7, 1–5 (1979).

ヤマチドメ

Japan: S. to E. Hokkaido, Honshu, Shikoku and Kyushu. In meadows, more or less wet places; low altitudes to 800 m.

Distr.: Japan, S. Korea and C. China.

4. **Hydrocotyle maritima** Honda in Bot. and Zool. **2**: 1825 (1934); H.Hara in J. Jpn. Bot. **17**: 344 (1941); H.Ohba in Iwatsuki & al. ed., Fl. Jap. **IIc**: 270 (1999).

Hydrocotyle wilfordii auct. non Maxim.: Makino in Bot. Mag. Tokyo **4**: (415) (1890).

Hydrocotyle ramifolia Maxim. var. *maritima* (Honda) Hiroe in Act. Phytotax. Geobot. **14**: 40 (1950).

Hydrocotyle formosana Masam. var. *maritima* (Honda) Hatus., Fl. Ryukyus, adit. et correct. ed.: 886 (1975).

ノチドメ

Japan: Honshu, Shikoku, Kyushu and Ryukyu. Lawns and roadsides on hills; lowlands to 700 m.

Distr.: Japan, Korea, Taiwan, C. to S. China and Indochina.

5. **Hydrocotyle batrachium** Hance in Ann. Sc. Nat. ser. 4, **18**: 220 (1862); H.Hara in J. Jpn. Bot. **60**: 136 (1985); H.Ohba in Iwatsuki & al. ed., Fl. Jap. **IIc**: 270 (1999).

Hydrocotyle rotundifolia Roxb. var. *batrachium* (Hance) Chermez. in Bull. Soc. Bot. Fr. **68**: 508 (1921).

Hydrocotyle formosana Masam. in J. Soc. Trop. Agric. **2**: 51 (1930).

Hydrocotyle sibthorpioides Lam. var. *batrachium* (Hance) Hand.-Mazz. ex Shan in Sinensia **7**: 480 (1936); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 18, f. 2, 7–6 (1979).

Hydrocotyle benguetensis auct. non Elm.: Hatus., Fl. Ryukyus: 450 (1971), p. p. excl. Kyushu et Korea.

タカサゴチドメ

Japan: S. Ryukyu (Miyako Isl. and Ishigaki Isl.). In heavy soils on rough pitted coral plains at low altitudes.

Dsitr.: Ryukyu, Taiwan, C. to S. China and Vietnam.

Note: *Hydrocotyle batrachium* is frequently treated as a variety of *H. sibthorpioides* Lam. but has more close affinity with *H. maritima* Honda.

6. **Hydrocotyle sibthorpioides** Lam., Encycl. Meth. **3**: 153 (1789); H.Hara, Enum. Sperm. Jap. **3**: 312 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 11, f. 4 (1958); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 17, f. 2, 4–6 (1979); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 271 (1999).

Hydrocotyle rotundifolia Roxb., Fl. Ind. ed. **2**: 88 (1832).

Hydrocotyle rotundifolia Roxb. β *sibthorpioides* (Lam.) Spreng. in Syst. Veget. **6**: 349 (1820).

Hydrocotyle zollingri Molkenboer ex Miq., Pl. Jungh. **1**: 91 (1851).

var. **sibthorpioides.**

チドメグサ

Japan: Honshu, Shikoku, Kyushu (northward from Amami-Ohshima). More or less wet roadsides in low altitudes.

Dsitr.: Widespread in warm-temperate to tropic regions of Asia and Africa.

var. **tuberifera** (Ohwi) Yamazaki in J. Jpn. Bot. **69**: 112 (1994).

Hydrocotyle tuberifera Ohwi in J. Jpn. Bot. **26**: 232 (1951).

Hydrocotyle keelungensis Liu, Chao & Chuang in Techn. Bull. Experim. For. Nat. Taiwan Univ. no. **26**: 15 (1961).

オキナワチドメ

Japan: Ryukyu (Southward from Okinawa Isl.).

Distr.: Ryukyu and Taiwan.

Note: This variety has been named ‘tuberifera’, but the tubers forming in the type specimen are an abnormal character.

Key to the varieties of *Hydrocotyle sibthorpioides*

A. Leaves glabrous on upper surface and petioles .... var. *sibthorpioides*
A. Leaves sparsely setulose on nerves on upper surface; petiole crisply long-pubescent near apex.......... var. *tuberifera*

7. **Hydrocotyle yabei** Makino in Bot. Mag. Tokyo **24**: 243 (1910); H.Hara, Enum. Sperm. Jap. **3**: 312 (1954); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 270 (1999).

Hydrocotyle rotundifolia Roxb. var. *pauciflora* Yabe, Rev. Umbel. Jap.: 14 (1902).

Hydrocotyle nitidula auct. non Richard: Nakai in Bot. Mag. Tokyo **36**: 25 (1922).

Hydrocotyle sibthorpioides Lam. var. *pauciflora* (Yabe) Yamazaki in J. Jpn. Bot. **69**: 112 (1994).

var. **yabei**.

ヒメチドメ

Distr.: Honshu, Shikoku and Kyushu. Edges of forests, more or less wet places; low altitudes to 1000 m.

var. **japonica** (Makino) Hiroe in Act. Phytotax. Geobot. **14**: 41 (1950).

Hydrocotyle japonica Makino in J. Jpn. Bot. **3**: 47 (1926); F.Maek. in J. Jpn. Bot. **11**: 377 (1936); H.Hara, Enum. Sperm. Jap. **3**: 311 (1954).

ミヤマチドメ

Japan: C. and W. Honshu, Shikoku and Kyushu. In shady places on hills or mountains, lowlands to 1300 m.

Distr.: Japan and Korea (Is. Chejudo).

Key to the varieties of *Hydrocotyle yabei*

A. Leaves 3–9 mm long, 3–10 mm wide, lower lobes generally much divaricate; ripe fruits ca. 1 mm long......... var. *yabei*
A. Leaves (5–) 6–12 (–15) mm long, (6–) 7–13 (–16) mm wide, lower lobes generally parallel or narrowly divaricate; mature fruits ca. 1.3 mm long .... var. *japonica*

8. **Hydrocotyle dichondroides** Makino in Bot. Mag. Tokyo **24**: 242 (1910); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 12, f. 5 (1958); Ohwi, Fl. Jap. ed. 2: 971 (1975); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 271 (1999); Yonekura in J. Jpn. Bot. **74**: 367 (1999).

Hydrocotyle sibthorpioides Lam. var. *dichondroides* (Makino) Hiroe in Act. Phytotax. Geobot. **14**: 40 (1950).

Hydrocotyle delicata auct. non Elmer: H.Hara, Enum. Sperm. Jap. **3**: 311 (1954).

ケチドメグサ

Japan: S. and W. Kyushu and Ryukyu. Edges of evergreen forests at lowlands. Distr.: Japan and Taiwan.

2. **Centella** L.

L., Gen. Pl. ed. 6: 485 (1764).

1. **Centella asiatica** (L.) Urban in Mart. Fl. Brasil. **11**: 287, t. 78, f. 1 (1879); H.Hara, Enum. Sperm. Jap. **3**: 303 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 13, f. 6 (1958).

Hydrocotyle asiatica L., Sp. Pl.: 234 (1753).

Hydrocotyle lunata Lam., Encycl. Meth. **3**: 152 (1789).

Centella boninensis Nakai & Tuyama in Bot. Mag. Tokyo **50**: 31, f. 23 (1936).

Centella asiatica L. var. *boninensis* (Nakai & Tuyama) H.Hara, Enum. Sperm. Jap. **3**: 304 (1954).

ツボクサ

Japan: C. to W. Honshu (westward from Fukushima Pref.), Shikoku, Kyushu and Ryukyu. Sunny meadows in lowlands especially near seashors.

Distr.: Subtropical to tropical regions of the Old World.

Subfam. II. **Saniculoideae** Drude

Drude in Engl. & Prantl, Nat. Pflanzenfam. III, **8**: 135 (1898).

3. **Sanucula** L.

L, Sp. Pl.: 235 (1753).

A. Stems erect, several branched; leaves alternate, almost cauline, radical leaves few or wanting at flowering (Sect. 1. Sanicula) .... 1. *S. chinensis*
A. Stems scape-like, with one to several simple or once branched scapes; leaves mostly radical.
  B. Scape or branches of scape with one normal sessile leaf at apex; leaf-teeth mucronate at apex; fruits with slender hooked prickles or short curved prickles (Sect. 2. Erythrosanicula).
    C. Leaves 4–15 cm long, 5–20 cm wide; fruits with slender hooked prikles.
      D. Leaflets broadly obovate; petals dark purple; involucral bracts large, much exceeding the flower .... 2. *S. rubriflora*
      D. Leaflets cuneate-ovate or oblanceolate; petals white; involucral bracts 1–2 times as long as the flower .... 3. *S. kaiensis*
    C. Leaves 2–5 cm long, 3–7 cm wide; fruits with short hair-like prickles... .... 4. *S. tuberculata*
  B. Scape with one scale-like sessile leaf or one much smaller petiolate leaf at apex; leaf-teeth with an awn at apex; fruits with short straight prickles (Sect. 3. Pseudopetagnia)... 5. *S. lamelligera*

Sect. 1. **Sanicula**

Sect. *Eusanicula* Wolff in Pfl.-reich, IV-22, Ht. **61**: 61 (1913).

1. **Sanicula chinensis** Bunge, Enum. Pl. Chin. Bor.: 106 (1833); Schischk., Fl. URSS **16**: 66 (1950); H.Hara, Enum. Sperm. Jap. **3**: 321 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 17, f. 8 (1958); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 58 (1979); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 272 (1999).

Sanicula japonica Siebold, Syn. Oecon. Jap.: 46 (1830), nom. nud.

Sanicula europaea L. var. *chinensis* (Bunge) Diels in Bot. Jahrb. Syst. **29**: 491 (1900).

Sanicula elata Ham. var. *japonica* (Siebold) Koidz. in Bot. Mag. Tokyo **44**: 95 (1930).

Sanicula elata Ham. var. *chinensis* (Bunge) Makino, Ill. Fl. Nippon: 281 (1940), comb. nud.

ウマノミツバ

Japan: Hokkaido, Honshu, Shikou, Kyushu and Ryukyu (Okinawa Isl.). In more or less wet forests on hills; low altitude to 1000 m.

Distr.: Japan, Korea, N. to C. China. Manchuria and Sakhalin.

Sect. 2. **Erythrosanicula** Baill., Hist. Pl. **7**: 536 (1880).

Sect. *Tuberculatae* Durde in Engl. & Prantl, Nat. Pflanzenfam. III, **8**: 137 (1898).

2. **Sanicula rubriflora** F.Schmidt ex Maxim., Prim. Fl. Amur.: 123 (1859); Schischk. in Fl. URSS **16**: 62 (1950); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 16, f. 7 (1958); H.Hara, Enum. Sperm. Jap. **3**: 322 (1954); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 37, f. 12 (1979); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 272 (1999).

Sanicula vaniotiana H.Lév. in Bull. Acad. Geogr. Bot. **11**: 299 (1902).

クロバナウマノミツバ

Japan: C. and N. Honshu (Iwate, Nagano and Yamanashi Prefs.). Genrally on limestones; 1000–1500 m.

Distr.: Japan, Korea, NE. China, Mongolia and E. Siberia.

3. **Sanicula kaiensis** Makino et Hisauchi in J. Jpn. Bot. **5**: 366, photo. (1928), nom.

nud.; J. Jpn. Bot. **10**: 755, photo. 1 (1934); H.Hara, Enum. Sperm. Jap. **3**: 321 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 19, f. 9 (1958); H.Ohba in Iwatsuki & al eds., Fl. Jap. **IIc**: 272 (1999).

ヤマナシウマノミツバ

Distr.: C. Honshu (Nagano and Yamanashi Prefs.). Generally on limestones; 1000-1700 m. Endemic.

4. **Sanicula tuberculata** Maxim. in Bull. Acad. Sci. St.-Pet. **11**: 431 (1867); H.Hara, Enum. Sperm. Jap. **3**: 322 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 21, f. 10 (1958); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 39, f. 13 (1979); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 273 (1999).

フキヤミツバ

Japan: C. to W. Honshu (westward from Gifu Pref.), Shikoku and N. Kyushu. In forests on mountains.

Dsitr.: Japan, Korea and NE. China.

Sect. 3. **Pseudopetagnia** Wolff. in Engl., Pfl.-reich, IV-22, Ht. **61**: 52 (1913).

5. **Sanicula lamelligera** Hance in J. Bot. **8**: 11 (1878); H.Hara, Enum. Sperm. Jap. **3**: 321 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 21, f. 11 (1958); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 48, f. 20 (1979); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 273 (1999).

Sanicula satsumana Maxim. in Bull. Acad. Sci. St.-Pet. **21**: 47 (1886).

Sanicula wakayamensis Masam. in Trans. Nat. Hist. Formos. **31**: 340 (1941).

Sanicula lamelligera Hance var. *wakayamensis* (Masam.) Murata in Act. Phytotax. Geobot. **20**: 195 (1962).

ヒメウマノミツバ

Japan: Honshu (Wakayama Pref.), Kyushu (Yaku-shima and Tanega-shima) and Ryukyu. In thickets along streams; lowlands to 500 m.

Distr.: Japan, Taiwan and C. to W. China.

Subfam. III. **Apioideae** Drude

Drude in Engl. & Prantle, Nat. Pflanzenfam. III, **8**: 145 (1898).

Tribe 1. **Scandiceae** DC.

DC., Prodr. 4: 220 (1830).

4. **Torilis** Adans.

Adans., Fam. Pl. **2**: 99 (1763).

A. Segments of leaves acute (sometimes acuminate) at apex; calyx-tube obtuse to rounded at base, not attenuate into pedicel; umbels with 3–8 rays; fruits ellipsoid, 3–3.5 mm long ... 1. *T. japonica*

A. Segments of leaves acuminate at apex; calyx-tube acute at base, gradually attenuate into pedicel; umbels with 2–3 rays; fruits oblong, 4–5 mm long.. 2. *T. scabra*

1. **Torilis japonica** (Houtt.) DC., Prodr. **4**: 219 (1830); H.Hara, Enum. Sperm. Jap. **3**: 328 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 24, f. 12 (1958); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 274 (1999).

Tordylium anthriscus L., Sp. Pl.: 240 (1753).

Caucalis japonica Houtt., Nat. Histr. II, **8**: 42: t. 45, f. 1 (1777).

Torilis anthriscus auct. non Gaertner (1788): (L.) Gmelin, Fl. Bad. **1**: 613 (1805).

ヤブジラミ

Japan: Hokkaido, Honshu, Shikoku, Kyushu and Ryukyu. Roadsides and waste places at lowlands.

Distr.: Common weeds in temperate to subtropical regions from N. Africa, Europe to E. Asia, naturalized in N. America.

2. **Torilis scabra** (Thunb.) DC., Prodr. **4**: 219 (1830); H.Hara, Enum. Sperm. Jap. **3**: 328 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 26, f. 13 (1958); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 274 (1999).

Chaerophyllum scabrum Thunb., Fl. Jap.: 119 (1784), p. p.

Anthriscus scabra (Thunb.) Kozo-Polj. in Bull. Soc. Nat. Moscou, n. s. **29**: 151 (1916).

オヤブジラミ

Japan: Honshu, Shikoku, Kyushu and Ryukyu. Roadsides or waste places at lowlands.

Distr.: Japan, S. Korea, Taiwan and C. to S. China.

5. **Anthriscus** (Pers.) Hoffm.

Hoffm., Gen. Umbell. ed, 1: 38 (1814).

A. Fruits black or dark brown when ripe, smooth............................ 1. *A. sylvestris*
A. Fruits yellowish brown when ripe, tuberuculate-hirsute........ 2. *A. nemorosa*

1. **Anthriscus sylvestris** (L.) Hoffm., Gen. Umbell. ed.1: 40 (1814); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 74 (1979); Ohwi, Fl. Jap. ed. Engl.: 671 (1965); H.Hara, Enum. Sperm. Jap. **3**: 299 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 26, f.14 (1958), excl. syn. *A. nemorosa* (M.Bieb.) Spreng.; H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 278 (1999).

Anthriscus sylvestris (L.) Hoffm. subsp. *aemula* auct. non Woron.: Kitam. in Act. Phytotax. Geobot. **20**: 195 (1962).

Anthriscus sylvestris (L.) Hoffm. subsp. *nemorosa* auct. non M.Bieb.: H.Hara, Enum. Sperm. Jap. **3**: 299 (1954).

シャク

Japan: S. Kuriles, Hokkaido, Honshu, Shikoku and Kyushu. Edges of forests on mountains, more or less wet places; low altitudes to 1000 m.

Distr.: Japan, Korea, NE., N. to C. China, Mongolia to Europe.

2. **Anthriscus nemorosa** (M.Bieb.) Spreng., Pl. Umbell. Prodr.: 27 (1813); Schischk., Fl. URSS **16**: 127 (1950); S.L.Liou, Fl. Reip. Popul. Sin. **55**(1): 75 (1979); Yamazaki in J. Jpn. Bot. **76**: 175 (2001).

Chaerophyllum nemorosum M.Bieb., Fl. Taur.-Cauc. **1**: 232 (1808).

Anthriscus sylvestris (L.) Hoffm. var. *nemorosa* Trautv. in Tr. Bot. Gard. **5**: 437 (1877).

Anthriscus sylvestris (L.) Hoffm. subsp. *nemorosa* (M.Bieb.) Koso-Polj. in Act. Hort. Petrop. **34**: 103 (1920); H.Hara, Enum. Sperm. Jap. **3**: 299 (1954).

Anthriscus sylvestris (L.) Hoffm. var. *aemula* Worn. in Fl. South East Europe, Part URSS **5**: 770 (1931).

Anthriscus aemula (Worn) Schischk. in Fl. URSS **16**: 129 (1950); Kitag., Neo-Lineam. Fl. Manshuricae: 477 (1979), cum f. *hirsutifructus* (Ohwi) Kitag.

Anthriscus nemorosa (M.Bieb.) Spreng. var. *hirsutifructus* Ohwi in Bull. Sci. Mus. Tokyo, no. **33**: 81 (1953).

Anthriscus sylvestris (L.) Hoffm. subsp. *nemorosa* (M.Bieb.) Koso-Polj. var. *hirsutifructus* (Ohwi) H.Hara, Enum. Sperm. Jap. **3**: 300 (1954).

Anthriscus sylvestris (L.) Hoffm. f. *hirsutifructus* (Ohwi) H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 278 (1999).

オニジャク，ケジャク

Japan: Sakhalin, Hokkaido, Honshu, Shikoku and Kyushu.

Distr.: Japan, China, Sakhalin, Mongolia, S. Russia, Balkan Peninsula and Italy.

6. **Osmorhiza** Rafin.

Rafin., in Journ. de Phys. **89**: 257 (1819).

1. **Osmorhiza aristata** (Thunb.) Rydb. in Bot. Surv. Nebraska **3**: 37 (1894); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 275 (1999).

Chaerophyllum aristatum Thunb., Fl. Jap.: 119 (1784).

Osmorhiza japonica Siebold & Zucc. in Abh, Akad, Muench. **4** (2): 203 (1845).

Osmorhiza amurensis F.Schmidt ex Maxim., Prim. Fl. Amur.: 129 (1859).

Osmorhiza aristata (Thunb.) Makino & Yatabe in Bot. Mag. Tokyo **17**: 14 (1903); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 30, f. 15 (1958); Schischk., Fl. URSS **16**: 140 (1950); H.Hara. Enum. Sperm. Jap. **3**: 315 (1954); S.L.Liou, Fl. Reipul. Popul. Sin. **55**(1): 77, f. 34 (1997).

var. **aristata**.

ヤブニンジン

Japan: Hokkaido, Honshu, Shikoku and Kyushu. In forests on hills and mountains; low altitude to 1800 m.

Distr.: Japan, Korea, Taiwan, C. to N. China, Mongolia, E. Siberia and Sakhalin.

var. **montana** Makino in J. Jpn. Bot. **2**: 7 (1918).

Osmorhiza montana (Makino) Makino in J. Jpn. Bot. **5**: 28 (1928).

Osmorhiza amurensis F.Schmidt var. *montana* (Makino) Kitag. in Rep. Inst. Sci. Res. Manch. **1**: 1 (1936).

ミヤマヤブニンジン

Japan: S. Kuriles, Hokkaido and N. to C. Honshu. In forests on mountains; 500–2000 m.

Distr.: Japan, Korea, NE. China, Sakhalin, Ussuri and Amur.

Key to the varieties of *Osmorhiza aristata*

A. Stems and pedicels pubescent; ultimate segments of leaves acute......var. *aristata*

A. Stems and pedicels glabrescent; ultimate segments of leaves acuminate..var. *montana*

Tribe 2. **Smyrnieae** Koch

Koch, Gen. Umbel.: 133 (1824); Drude in Engl. & Prantl, Nat. Pflanzenfam. III, **8**: 147 (1898).

7. **Pleurospermum** Hoffm.

Hoffm., Gen. Umbel. ed. 1: 8 (1814).

1. **Pleurospermum camtschaticum** Hoffm., Gen. Umbel. ed. 1: 10 (1814); F.Schmidt, Reis. Sachal: 140 (1868); Schischk., Fl. URSS **16**: 232 (1950); Ohwi, Fl. Jap. ed. 2: 983 (1975); K.T.Fu & Y.C.Ho, Reip. Popul. Sin. **55**(1): 166, f. 86 (1997).

Pleurospermum uralense auct. non Hoffm.: Hultén, Fl. Kamtch. **3**: 155 (1929).

Pleurospermum austriacum (L.) Hoffm. subsp. *uralense* auct. non Hoffm.: H.Hara in J. Fac. Sci. Univ. Tokyo, sect. 3, **6**: 93 (1952); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 284 (1999).

Pleurospermum austriacum auct. non L.: Hiroe & Constance in Univ. Calif. Pubul. Bot. **30**: 81, f. 43 (1958).

オオカサモチ

Japan: S. Kuriles, Hokkaido, N. to C. Honshu. In mountain to alpine meadows; 700–2600 m in Honshu, low altitudes to 1500 m in Hokkaido.

Distr.: Japan, Korea, NE. China, Kuriles, Kamchatka, Sakhalin and E. Siberia.

Tribe 3. **Ammineae** Koch.

Koch, Gen. Umbel.: 114 (1824); Drude in Engl. & Prantl, Nat. Pflanzenfam. III, **8**: 178 (1898).

Subtribe 1. **Carinae** Drude

Drude in Engl. & Prantl, Nat. Pflanzenfam. III, **8**: 183 (1898).

8. **Bupleurum** L.

L., Sp. Pl.: 236 (1753).

A. Cauline leaves dilated and clasping the stem at base.
  B. Stems 7–15 cm tall; bracteoles orbicular-ovate 5–6 mm long, 4–5 mm wide at fruiting, ca. 2 times as long as the fruit.. 1. *B. ajanense*
  B. Stems 30–100 cm tall; bracteoles ovate to lanceolate, 1–7 mm long, 0.5–4 mm wide at fruiting, 1–2 times as long as the fruit.
    C. Stems 20–60 cm tall; bracteoles ovate to oblong-lanceolate, 4–7 mm long, 2–4 mm wide, 1–2 times as

long as the fruit.

D. Cauline leaves oblong-ovate to ovate, abruptly acute at apex, distinctly dilated at base; bracteoles broadly ovate, acute .... 2. *B. nipponicum*

D. Cauline leaves lanceolate, attenuate-acuminate at apex, slightly dilated at base; bracteoles triangular-lanceolate, aristate-acuminate .... 3. *B. yesoense*

C. Stems 40–100 cm tall; bracteoles lanceolate to ovate, 1–3(–5) mm long, 0.5–2.5 mm wide at fruiting, shorter or slightly longer than the fruit .... 4. *B. longiradiatum*

A. Cauline leaves gradually narrowing and not clasping the stem at base.

B. Middle cauline leaves lanceolate, 6–10 cm long, 0.7–1.5 cm wide, abruptly narrowing upward, acute or short-acuminate at apex, apical awns 0.5–1 mm long .... 5. *B. chinense*

B. Middle cauline leaves linear-lanceolate, 7–15 cm long, 0.3–1.5 cm wide, gradually nerrowing upward, attenuate-acuminate at apex, apical awns 1–2 mm long... 6. *B. scorzonerifolium*

1. **Bupleurum ajanense** (Regel) Krasnob. exYamazaki in J. Jpn. Bot. **70**: 341 (1995).

Bupleurum ajanense (Regel) Krasnob. in XV Intern. Bot. Cong. Abstr.: 255 (1993), nom. illeg.

Bupleurum ranunculoides L. var. γ *ajanense* Regel in Regel & Tiling, Fl. Ajan.: 97 (1858).

Bupleurum triradiatum Adams ex Hoffm. var. *alpinum* auct. non Rupr.: F.Schmidt, Fl. Sachal.: 135 (1868); H.Hara, Enum. Sperm. Jap. **3**: 303 (1954).

Bupleurum triradiatum Adams ex Hoffm. var. *ajanense* (Regel) Kozo-Polj. in Act. Hort. Peterop. **30**: 200 (1914).

Bupleurum triradiatum auct. non Adams: Y.Li. & M.L.Sheh, Fl. Reip. Popul. Sin. **55** (1): 237 (1979), pro parte; Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 55, f. 29 (1958); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 276 (1999).

レブンサイコ

Japan: S. Kuriles, Hokkaido and N. Honshu (Mt. Shirakami). More or less wet rocky places.; 1000–1700 m.

Distr.: Japan, Kuriles, Kamchatska, Sakhalin and E. Siberia.

2. **Bupleurum nipponicum** Koso-Polj. in J. Russ. Bot. **1913**: 1, t. 1 (1913); in Fedch., Fl. Asiat. Ross. **10**: 31, t. 12 (1915); H.Hara, Enum. Sperm. Jap. **3**: 302 (1954); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 277 (1999).

Bupleurum longiradiatum Turcz. subsp. *sachalinense* (F.Schmidt) Kitag. var. *pseudonippinicum* Kitag. in J. Jpn. Bot. **38**: 306 (1963).

ハクサンサイコ

Distr.: C. and N. Honshu. In subalpine to alpine meadows; 1600–2400 m. Endemic.

Note. A form with lanceolate acuminate bractoles of umbellets has been named f. *stenolepis* Kitag. (Jap. Name: Shinano-saiko, J. Jpn. Bot. **44**: 194, 1969).

3. **Bupleurum yesoense** Nakai ex H.Hara in J. Jpn. Bot. **9**: 515, f. 3 (1933).

Bupleurum yesoense Nakai, Veget. Apoi: 30, 62 (1930), nom. nud.

Bupleurum nipponicum Kozo-Polj. var. *yesoense* (Nakai) H.Hara in J. Jpn. Bot. **9**: 515 (1933), pro syn.; H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 277 (1999).

エゾサイコ

Distr.: Hokkaido. In alpine meadows. Endemic.

4. **Bupleurum longiradiatum** Turcz. in Bull. Soc. Nat. Mosc. **17**: 719 (Fl. Baic. Dahur., no. 505) (1844).

subsp. **sachalinense** (F.Schmidt) Kitag. in J. Jpn. Bot. **36**: 241 (1961).

Bupleurum sachalinense F.Schmidt., Reis. Amur. Sachal.: 135 (1868).

Bupleurum longiradiatum Turcz. var. *sachalinense* (F.Schmidt) Boiss. in Bull. Soc. Bot. Fr. **57**: 413 (1910), in nota.

Bupleurum longiradiatum Turcz. f. *sachalinense* (F.Schmidt) Nakai in Bot. Mag Tokyo **50**: 367 (1936).

Bupleurum longiradiatum Turcz. var. *breviradiatum* auct. non F.Schmidt: Ohwi, Fl. Jap. ed. Engl.: 670 (1965); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 276 (1999).

var. **sachalinense**.

エゾホタルサイコ

Distr.: N. Honshu, SE. Hokkaido and Sakhalin.

var. **elatius** (Kozo-Polj.) Kitag. in J. Jpn. Bot. **36**: 242 (1961).

Bupleurum longiradiatum Turcz. var. *breviradiatum* F.Schmidt f. *elatius* Kozo-Polj. in Bull. Soc. Nat. Mosc. n. s. **29**: 60 (1916).

Bupleurum longiradiatum auct. non Turcz., Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 55, f. 28 (1958), pro parte.

ホタルサイコ

Japan: Hokkaido, Honshu, Shikoku and Kyushu. In meadows on hills and mountains; low altitude to 2000 m. Endemic.

var. **shikotanense** (Hiroe) Ohwi in Bull. Natn. Sci. Mus. Tokyo no. **33**: 80 (1953).

Bupleurum shikotanense Hiroe in Act. Phytotax. Geobot. **14**: 145 (1952).

コガネサイコ

Dsitr.: S. Kuriles and NE. Hokkaido (Shiretoko Peninsula). In meadows on stony slopes.

Note: Subsp. *longiradiatum* in Korea, NE. China and SE. Siberia differs from subsp. *sachalinense* by the small linear-lanceolate bracteoles (1–2 mm long) and longer pedicels (5–7 mm long at fruiting).

Key to the varieties of
Bupleurum longiradiatum subsp.
sachalinense

A. Pedicels 4–5 (–6) mm long at fruiting; petals pale yellow.
  B. Bracteoles ovate, 2.5–5 mm long, longer than the flower..var. *sachalinense*
  B. Bracteoles narrowly ovate, 1.5–2 mm long, as long as or shorter than the flower ....var. *elatius*
A. Pedicels 1.5–2 mm long at fruiting; petals light yellow............var. *shikotanense*

5. **Bupleurum chinense** DC., Prodr. **4**: 128 (1830); Y.Li & M.L.Sheh, Fl. Reip. Popul. Sin. **55** (1): 290 (1979).

Bupleurum scorzonerifolium Willd. f. *latum* Nakai in J. Jpn. Bot. **13**: 486 (1937).

Bupleurum stenophyllum (Nakai) Kitag. var. *kiusianum* Kitag. in J. Jpn.Bot. **21**: 100 (1947).

Bupleurum falcatum L. f. *kiusianum* (Kitag.) Hiroe in Act. Phytotax. Geobot. **14**: 145 (1952).

ツクシサイコ, マンシュウミシマサイコ

Japan: W. Honshu (Yamaguchi Pref.) and Kyushu. In sunny meadows on mountains; 400–500 m.

Distr.: Japan, Korea, NE. and C. to N. China.

6. **Bupleurum scorzonerifolium** Willd., Enum. Hort. Berol. suppl.: 300 (1809); Kitag. in J. Jpn. Bot. **21**: 98 (1944); Y.Li & M.L.Sheh, Fl. Reip. Popul. Sin. **55**(1): 267, f. 145 (1979).

Bupleurum falcatum L. var. *scorzonerifolium* (Willd.) Ledeb., Fl. Ross. **2**: 267 (1844), ut β; Regel, Tent. Fl. Ussur.: 69 (1861); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 53, f. 27 (1958).

Bupleurum falcatum L. subsp. *scorzonerifolium* (Willd.) Koso-Pol. in Act. Hort. Petrop. **30**: 219 (1914).

Bupleurum falcatum L. subsp. *scorzonerifolium* (Willd.) Kozo-Polj. var. *komarowii* Koso-Pol. in Bull. Soc. Nat. Mosc., n. s. **29**: 59 (1916); H.Hara, Enum. Sperm. Jap. **3**:

300 (1954).

Bupleurum scorzonerifolium Willd. var. *stenophyllum* Nakai in J. Jpn. Bot. **13**: 487 (1937).

Bupleurum scorzonerifolium Willd. var. *obvallatum* Nakai in J. Jpn. Bot. **13**: 488 (1937).

Bupleurum stenophyllum (Nakai) Kitag. in J. Jpn. Bot. **21**: 99 (1948).

Bupleurum falcatum auct. non L.: H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 275, pro parte.

ミシマサイコ

Japan.: Honshu (westward from Fukushima Pref. and Toyama Pref.), Shikoku and Kyushu. In meadows on hills; low altidudes to 900 m.

Distr.: Japan, Korea, NE., N. to C. China, Mongolia, E. Siberia and Dahuria.

9. **Cryptotaenia** DC.

DC., Mem. Ombel.: 42 (1829), nom. cons.

Deringa Adans., Fam. Pl. **II**: 498 (1763), nom. rejec.

1. **Cryptotaenia japonica** Hassk. in Retzia **1**: 113 (1855); H.Hara, Enum. Sperm. Jap. **3**: 308 (1954); S.L.Liou, Fl. Reip. Popul. Sin. **55**(2): 19 (1985).

Cryptotaenia canadensis auct. non DC.: Siebold & Zucc. in Abh. Akad. Muench. **4** (2): 203 (1845); Buwarda in Fl. Males. **4**(2): 133 (1949); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 32, f. 16 (1958).

Cryptotaenia canadensis (L.) DC. var. *japonica* (Hassk.) Makino in Bot. Mag. Tokyo **22**: 175 (1908).

Deringa japonica (Hassk.) Koso-Pol. in Bull. Soc. Nat. Moscou, n. s. **29**: 136 (1916).

Cryptotaenia canadensis (L.) DC. subsp. *japonica* (Hassk.) Hand.-Mazz., Symb. Sin. **7**-3: 713 (1933).

ミツバ

Japan: S. Kuriles, Hokkaido, Honshu, Shikoku and Kyushu, probably escaped in the Ryukyus. In secondarey forests, more or less wet places; lowlands to 800 m.

Distr.: Japan, Korea, Taiwan and China.

Note: A form with deeply lobed leaves has been named f. *dissecta* (Yabe) H.Hara (Enum. Sperm. Jap. **3**: 309, 1954) and with dark purple leaves as f. *atropurpurea* (Makino) Ohwi ex H.Hara (Enum. Sper. Jap. **3**: 309, 1954). *Cryptotaenia canadensis* (L.) DC. in N. America closely resembles *C. japonica*, but differs from the latter by frequently bi-lobed or parted leaflets with distinct petiolules, and oblong-cylindric fruits with persistent ca. 1 mm long styles.

10. **Pternopetalum** Fr.

Franch. in Nouv. Arch. Mus. Histr. Nat. Paris, ser. 2, **8**: 246 (1886).

1. **Pternopetalum tanakae** (Franch. & Sav.) Hand.-Mazz., Symb. Sinic. **7**-3: 719 (1933); H.Hara, Enum. Sperm. Jap. **3**: 320 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 37, f. 18 (1958); F.T.Pu, Fl. Reip. Popul. Sin. **55**(2): 57 (1985); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 278 (1999).

Carum tanakae Franch. & Sav., Enum. Pl. Jap. **2**: 371 (1877).

Pimpinella tanakae (Franch. & Sav.) Diels in Engl. Bot. Jahrb. **29**: 494 (1900), excl. specim.

Cryptotaeniopsis tanakae (Franch. & Sav.) Boiss. in Bull. Herb. Boiss. ser. 2, **2**: 806 (1902); Hiyama in Yaso **4**: 41 (1938), cum f. *conformis* Hiyama et f. *linearis* Hiyama.

イワセントウソウ

Japan: C. to W. Honshu (west of Gunma Pref.), Shikoku and Kyushu. In forests on mountains; 1000–2400 m.

Dsitr.: Japan, S. Korea and C. China.

11. **Aegopodium** L.

L., Sp. Pl.: 265 (1753).

A. Leaves bi-ternate, pubescent beneath;

leaflets irregularly acute-serrate, central leaflets 3–8 cm long, 1.5–5 cm wide... 1. *A. podagraria*

A. Leaves 2–3 times ternately pinnate; leaflets glabrous on both surfaces, irregularly incised-lobed, 0.8–3 cm long, 0.4–1.5 cm wide...................... 2. *A. alpestre*

1. **Aegopodium podagraria** L., Sp. Pl.: 265 (1753); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 49 (1958).

イワミツバ

Japan: A native of Europe, naturalized in Hokkaido (Sapporo).

2. **Aegopodium alpestre** Ledeb., Fl. Alt. **1**: 354 (1829); H.Hara, Enum. Sperm. Jap. **3**: 291 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 50, f. 25 (1958); S.L.Liou, Fl. Reip. Popul. Sin. **55**(2): 138, f. 56 1–3 (1985); Schischk., Fl. URSS **16**: 457 (1950); H.Ohba in Iwatsuki & al. eds., Fl. Jap. **IIc**: 281 (1999).

Carum alpestre (Ledeb.) Koso-Pol. in Bull. Soc. Nat. Moscou **29**: 199 (1916).

Aegopodium alpestre Ledeb. f. *tenera* H.Hara in Bot. Mag. Tokyo **50**: 365 (1936).

エゾボウフウ

Japan: S. Kuriles, Hokkaido and N. to C. Honshu. In forests;1000–1800 m in Honshu, 200–1000 m in Hokkaido.

Distr.: Japan, Sakhalin, Kuriles, Kamchatka, N. Korea, NE. China, Dahuria and W. to E. Siberia.

山崎 敬：**日本のセリ科植物 I**

日本のセリ科植物は約30属90種ほど知られている．これを纏めた論文の多くは，永年この科の研究を続けていた北川政夫氏の結論を基礎としている．しかしその見解は氏独自のもので，ロシアや中国の研究者とのあいだにいくつかの異なった見解が見られる．これらの相違を検討して妥当な学名を選択しなければならない．こうした観点から日本のセリ科植物を再検討した．ここでは日本産の属の検索表と，チドメグサ属，ツボクサ属，ウマノミツバ属，ヤブジラミ属，シャク属，ヤブニンジン属，オオカサモチ属，ミシマサイコ属，ミツバ属，イワセントウソウ属，エゾボウフウ属の11属を扱い，各属内の種及び変種の検索表を掲げた． （165-[redacted]東京都中野区[redacted]）